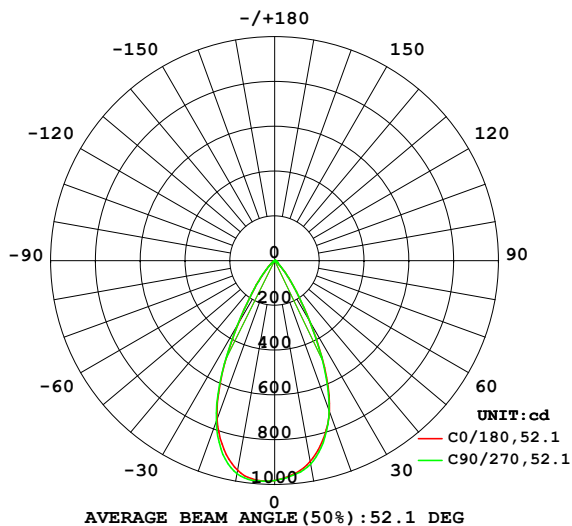


LUMINAIRE PHOTOMETRIC TEST REPORT

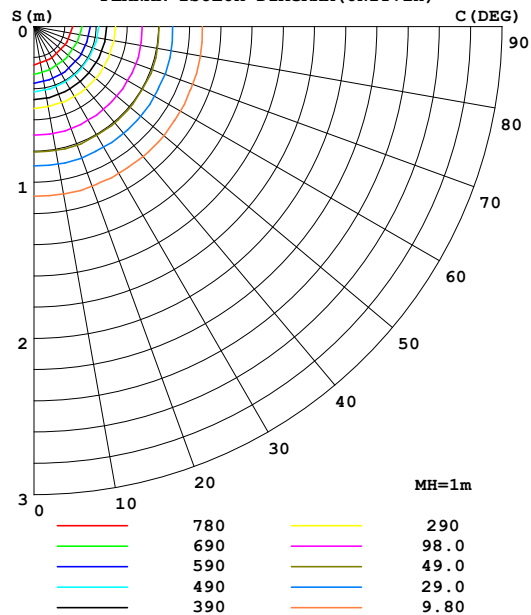
Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 80.54 lm/W
MODEL		I _{max} (cd)	987.4	S/MH(C0/180)	0.79	
NOMINAL POWER(W)	9	LOR(%)	100.0	S/MH(C90/270)	0.79	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	737.74	η UP,DN(C0-180)	0.0,49.0	
NOMINAL FLUX(lm)	737.738	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	240.1	η down (%)	100.0	CIBSE SHR MAX	0.80	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	911.8	891.5	922.6	950.7	951.6	949.4	966.4	944.8	0- 10	91.71	91.71	12.4,12.4
20	714.3	685.2	711.9	741.0	752.6	746.7	764.0	739.6	10- 20	237.6	329.3	44.6,44.6
30	316.4	309.4	314.8	326.6	331.3	330.7	332.6	324.2	20- 30	241.4	570.7	77.4,77.4
40	88.53	87.72	87.14	90.18	89.72	90.52	88.99	89.03	30- 40	113.0	683.7	92.7,92.7
50	21.13	21.32	20.22	21.20	21.33	21.71	21.67	20.60	40- 50	35.85	719.6	97.5,97.5
60	7.490	7.547	7.592	7.653	7.632	7.684	7.547	7.387	50- 60	11.42	731.0	99.1,99.1
70	2.828	2.874	2.955	2.968	2.925	2.888	2.881	2.788	60- 70	4.823	735.8	99.7,99.7
80	0.6400	0.6493	0.6229	0.6896	0.6673	0.5903	0.5242	0.5856	70- 80	1.737	737.6	100,100
90	0.0275	0.0215	0.0267	0.0203	0.0189	0.0205	0.0219	0.0248	80- 90	0.1664	737.7	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 707.16 lm

%lum = 95.9%

%lamp = 95.9%

Conical surface Flux(120deg): 731.01 lm

%lum = 99.1%

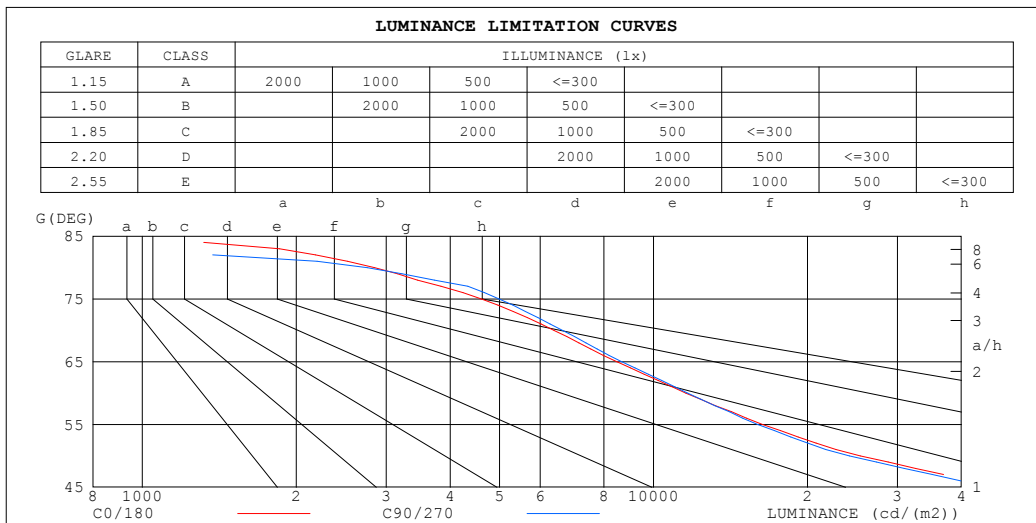
%lamp = 99.1%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2023-12-21

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	790	247
80	2847	2756
75	4610	4989
70	6386	6638
65	8484	8672
60	11569	11665
55	16359	16004
50	25393	24170
45	47453	45401

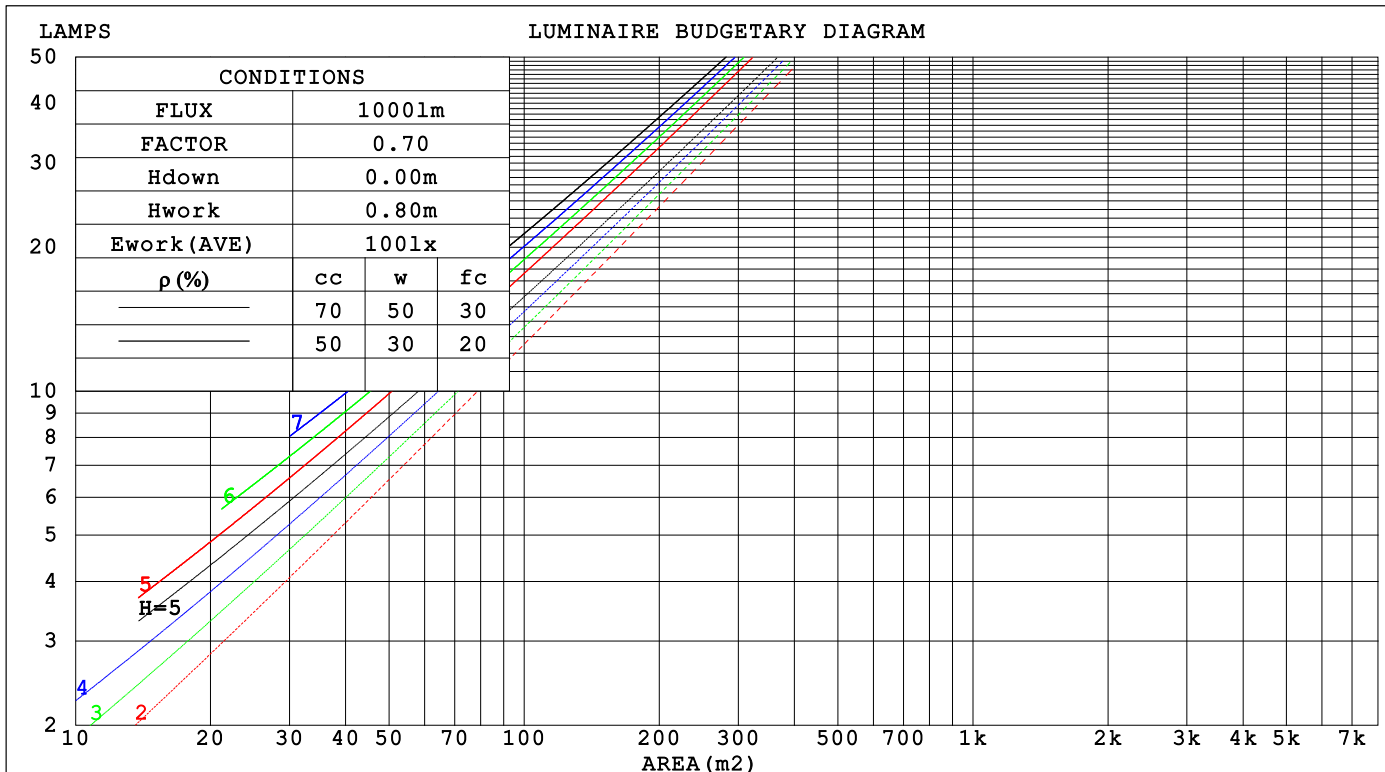
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-12-21

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity: 65.0%
Test Distance: 3.090m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401		
Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz			UTHDi:0.16% ITHDi:18.12% KDisp:0.9401			Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: Norming Lighting			SUR.: 41mm			Shielding Angle:		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.174	.099	.031	.167	.095	.030	.154	.089	.028	.143	.082	.026	.132	.077	.025		
2.0	.166	.091	.028	.160	.088	.027	.150	.083	.026	.140	.078	.025	.131	.074	.023		
3.0	.158	.084	.025	.153	.082	.025	.144	.078	.024	.135	.074	.023	.128	.071	.022		
4.0	.150	.078	.023	.146	.076	.023	.138	.073	.022	.131	.070	.021	.124	.067	.021		
5.0	.143	.073	.021	.139	.071	.021	.132	.069	.020	.126	.066	.020	.120	.064	.019		
6.0	.136	.068	.020	.133	.067	.019	.127	.065	.019	.121	.063	.019	.116	.061	.018		
7.0	.130	.064	.018	.127	.063	.018	.122	.062	.018	.117	.060	.017	.112	.058	.017		
8.0	.124	.061	.017	.122	.060	.017	.117	.059	.017	.113	.057	.016	.109	.056	.016		
9.0	.119	.058	.016	.117	.057	.016	.113	.056	.016	.109	.054	.016	.105	.053	.015		
10.0	.114	.055	.015	.112	.054	.015	.108	.053	.015	.105	.052	.015	.102	.051	.015		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)										
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016		
2.0	.155	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013		
3.0	.143	.114	.090	.122	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011		
4.0	.132	.099	.073	.114	.085	.064	.078	.059	.045	.045	.035	.026	.015	.011	.009		
5.0	.124	.087	.060	.106	.075	.052	.073	.053	.037	.042	.031	.022	.014	.010	.007		
6.0	.116	.078	.050	.100	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006		
7.0	.109	.070	.043	.094	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005		
8.0	.104	.064	.037	.089	.055	.032	.062	.039	.023	.036	.023	.013	.012	.008	.004		
9.0	.098	.059	.032	.085	.051	.028	.059	.036	.020	.034	.021	.012	.011	.007	.004		
10.0	.094	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz UTHDi:0.16% ITHDi:18.12% KDisp:0.9401Lamp Flux:737.738x1 lm										
NAME: MD10-09-XX-04 2700K RA90 50D						TYPE:		WEIGHT:		
SPEC.:						DIM.:		SERIAL No.:		
MFR.: Norming Lighting						SUR.: 41mm		Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	20.7	21.7	21.0	21.8	22.0	20.7	21.6	20.9	21.8	21.9
3H	20.7	21.5	20.9	21.7	21.9	20.6	21.4	20.8	21.6	21.8
4H	20.6	21.4	20.9	21.6	21.8	20.5	21.3	20.8	21.5	21.8
6H	20.5	21.3	20.8	21.5	21.8	20.5	21.2	20.8	21.4	21.7
8H	20.5	21.2	20.8	21.4	21.7	20.4	21.1	20.7	21.4	21.6
12H	20.4	21.1	20.8	21.4	21.7	20.4	21.1	20.7	21.3	21.6
4H 2H	20.6	21.4	20.8	21.6	21.8	20.5	21.3	20.8	21.5	21.7
3H	20.5	21.2	20.8	21.4	21.7	20.4	21.1	20.7	21.4	21.7
4H	20.4	21.1	20.8	21.4	21.7	20.4	21.0	20.7	21.3	21.6
6H	20.4	20.9	20.7	21.2	21.6	20.3	20.9	20.7	21.2	21.5
8H	20.3	20.8	20.7	21.2	21.5	20.3	20.8	20.7	21.1	21.5
12H	20.3	20.7	20.7	21.1	21.5	20.2	20.7	20.6	21.0	21.4
8H 4H	20.3	20.8	20.7	21.2	21.5	20.3	20.8	20.6	21.1	21.5
6H	20.2	20.7	20.7	21.0	21.5	20.2	20.6	20.6	21.0	21.4
8H	20.2	20.6	20.6	21.0	21.4	20.1	20.5	20.6	20.9	21.4
12H	20.1	20.5	20.6	20.9	21.4	20.1	20.4	20.5	20.8	21.3
12H 4H	20.3	20.7	20.7	21.1	21.5	20.2	20.7	20.6	21.0	21.4
6H	20.2	20.6	20.6	21.0	21.4	20.1	20.5	20.6	20.9	21.4
8H	20.1	20.5	20.6	20.9	21.4	20.1	20.4	20.5	20.8	21.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.8 / - 5.9					+ 2.8 / - 5.8				
1.5H	+ 4.6 / - 4.8					+ 4.6 / - 4.7				
2.0H	+ 4.6 / - 3.5					+ 4.5 / - 3.3				

CIE Pub.117, 737.7 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.1)
Area: 0.0013 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

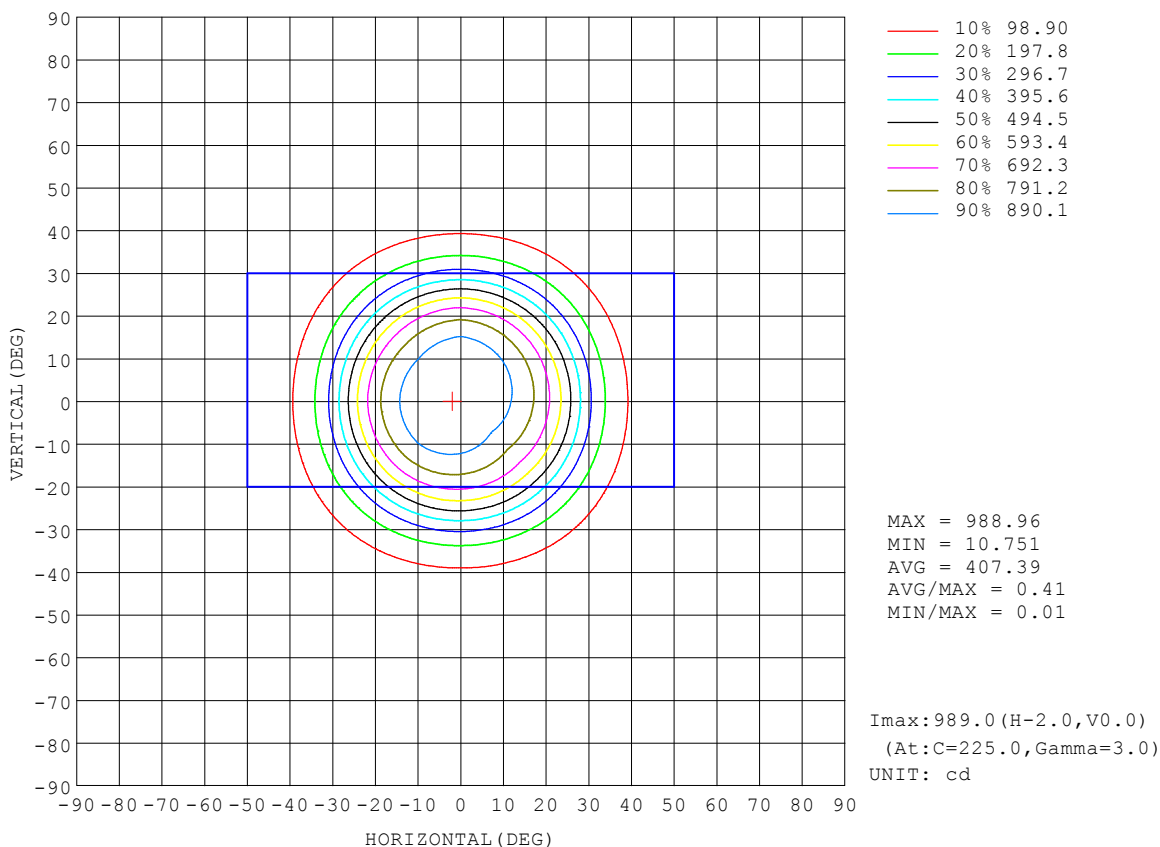
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	86	80	77	86	80	76	73
0.80	94	89	85	94	88	85	93	88	84	81
1.00	99	93	90	98	93	89	97	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	98	105	100	97	102	99	96	92
2.00	108	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	102	105	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	107	106	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2023-12-21

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

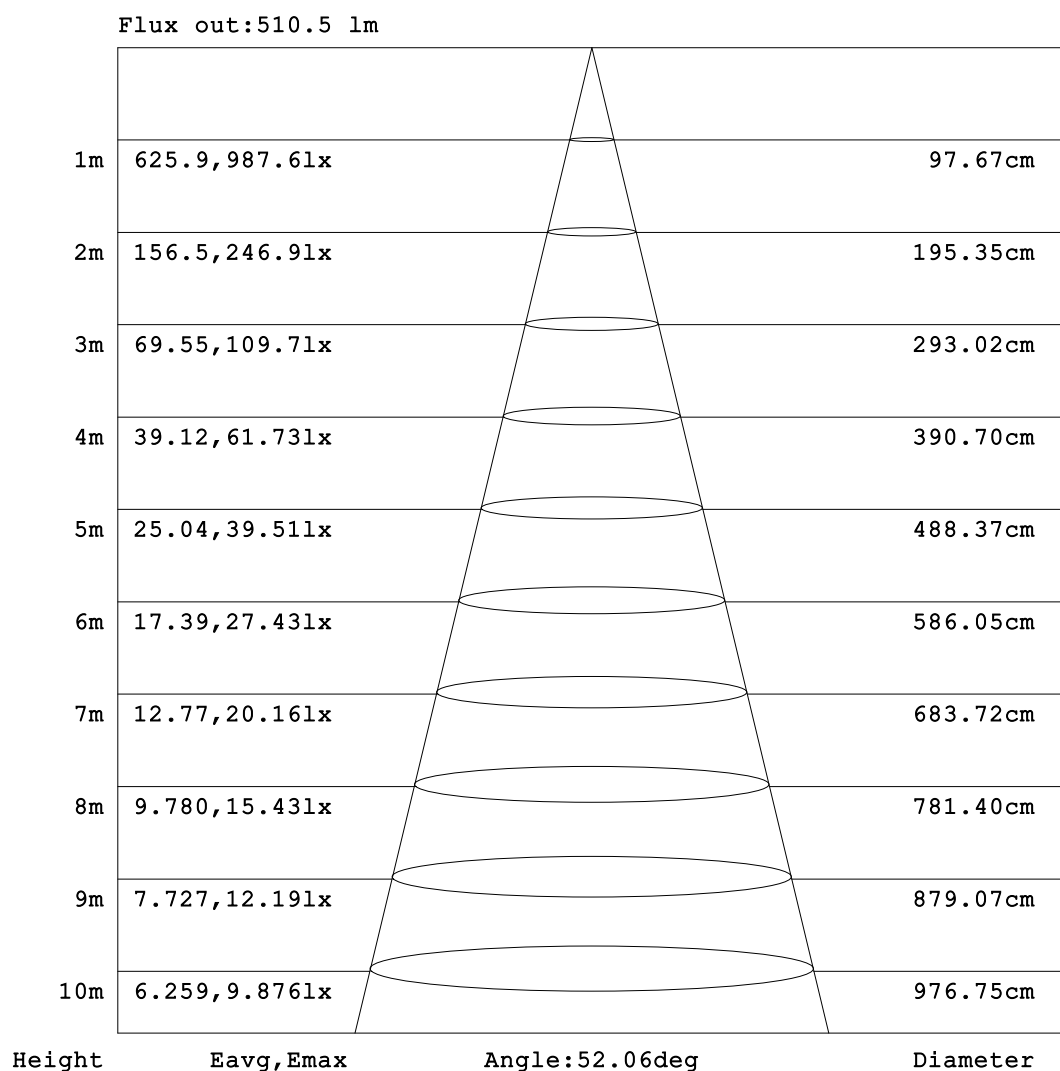


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401		Lamp Flux:737.738x1 lm
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



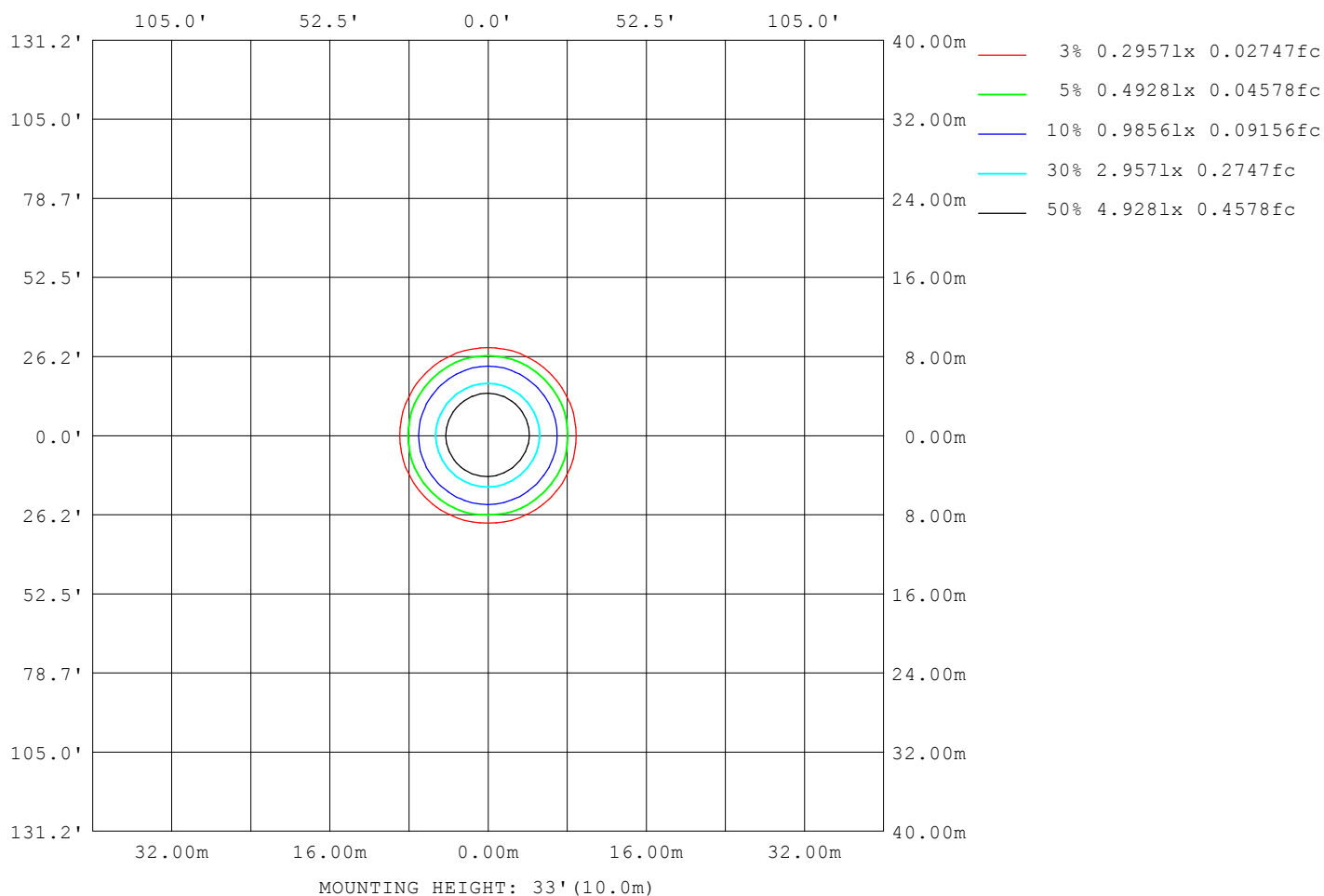
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2023-12-21

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:240.2V I:0.0412A P:9.2W PF:0.9246 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.12% KDisp:0.9401 Lamp Flux:737.738x1 lm		
NAME: MD10-09-XX-04 2700K RA90 50D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

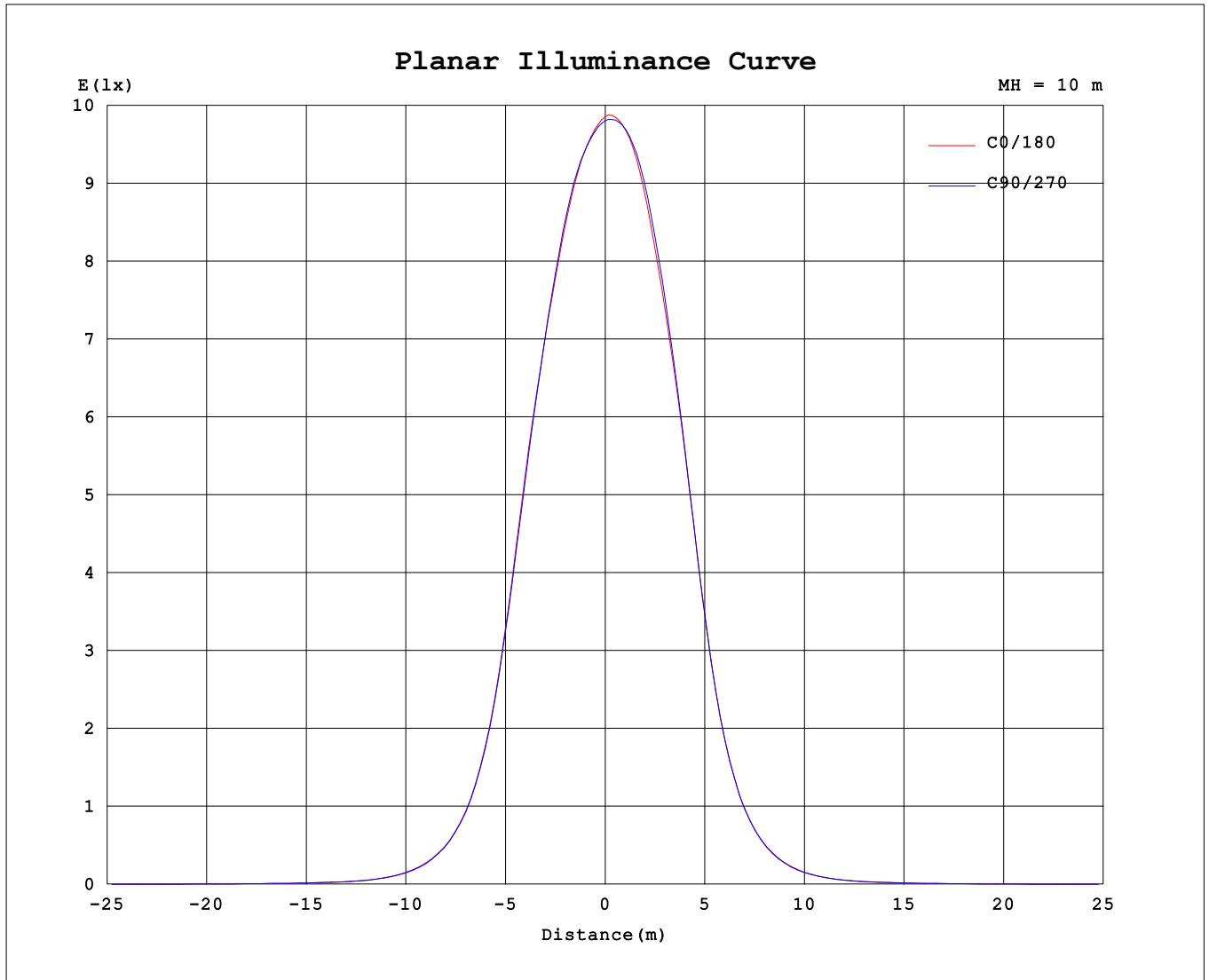
AvgL	cd/m2
L_0~180 (65) av	8571
L_0~180 (75) av	4718
L_0~180 (85) av	858
L_90~270 (65) av	8628
L_90~270 (75) av	4873
L_90~270 (85) av	243
L_45 (65) av	8556
L_45 (75) av	4754
L_45 (85) av	199

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2023-12-21

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

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Photometric Data Table [cd]

G/C	0.0	45.0	90.0	135.0	180.0	225.0	270.0	315.0
0.0	981.6	981.6	981.6	981.6	981.6	981.6	981.6	981.6
3.0	969.1	965.3	971.5	981.6	984.8	987.4	986.6	979.5
6.0	951.3	941.6	956.6	975.8	979.6	981.3	985.6	972.1
9.0	924.1	906.7	934.0	959.4	961.5	960.5	974.2	953.9
12.0	883.3	860.0	894.8	926.1	925.2	921.3	943.8	920.3
15.0	831.1	803.9	840.8	873.0	873.3	869.8	895.0	867.8
18.0	767.5	737.6	769.3	800.6	807.2	802.4	823.9	797.6
21.0	683.8	655.6	679.1	707.0	719.5	713.7	729.1	705.7
24.0	569.9	549.4	564.8	586.8	600.2	596.6	604.9	584.7
27.0	439.2	427.0	436.7	452.5	461.9	460.4	463.9	449.7
30.0	316.4	309.4	314.8	326.6	331.3	330.7	332.6	324.2
33.0	219.8	217.5	218.3	228.6	230.0	227.9	230.8	225.2
36.0	149.7	148.2	149.0	155.1	154.8	153.8	155.0	152.8
39.0	100.5	100.2	99.22	103.7	103.2	102.7	102.7	101.5
42.0	66.62	66.80	64.95	67.19	67.73	68.39	66.82	66.12
45.0	43.44	43.93	41.78	43.05	43.92	44.86	43.32	42.37
48.0	28.19	28.53	26.92	27.80	28.44	29.07	28.11	27.43
51.0	18.53	19.00	17.79	18.31	19.03	18.94	19.05	18.01
54.0	13.48	13.52	13.20	13.53	13.65	13.82	13.44	13.27
57.0	10.03	10.02	9.972	10.12	10.13	10.29	10.01	9.888
60.0	7.490	7.547	7.592	7.653	7.632	7.684	7.547	7.387
63.0	5.637	5.684	5.770	5.795	5.777	5.779	5.708	5.558
66.0	4.198	4.240	4.330	4.357	4.331	4.304	4.272	4.142
69.0	3.138	3.175	3.265	3.283	3.241	3.205	3.192	3.092
72.0	2.267	2.312	2.391	2.403	2.354	2.310	2.315	2.242
75.0	1.545	1.594	1.681	1.686	1.630	1.582	1.598	1.536
78.0	0.9294	0.9639	1.009	1.077	1.011	0.9495	0.8764	0.9199
81.0	0.5102	0.4980	0.4474	0.5307	0.5333	0.4474	0.3610	0.4385
84.0	0.1784	0.0650	0.0314	0.0848	0.2200	0.0594	0.0283	0.0521
87.0	0.0320	0.0196	0.0273	0.0193	0.0231	0.0177	0.0244	0.0200
90.0	0.0275	0.0215	0.0267	0.0203	0.0189	0.0205	0.0219	0.0248

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks: